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Public administration perspective on implementing the internationally agreed goals and commitments in regard to gender equality and empowerment of women

Information and communications technology and gender equality: new opportunities and challenges for public administration to implement the internationally agreed development goals, including the Millennium Development Goals

Note by the Secretariat

Summary

Many women are alienated from the outreach of governance structures for reasons that include mobility, level of education, and access to infrastructure and resources. But the most important reason is discrimination and exclusions owing to societal norms and attitudes regarding the role of women. Redressing this marginalization is the aim of millennium development goal 3 — gender equality and the empowerment of women, which promotes in particular their inclusion in economic, social and political development processes.

Since the mid-1990s, most governments have increasingly recognized information and communications technology (ICT) as a major tool to improve public administration practices and operations, with reference to at least two key objectives: (a) enhancing service delivery to all, especially marginalized groups; and (b) providing mechanisms for civic engagement by all.

However, the empowerment of women and their active participation in e-Government programmes will not occur if the approaches and ICT-supported contents are not gender-sensitive and committed to removing gender inequalities.

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To this end, public administration can include women more actively in the development of ICT tools with the aim of strengthening their participation in economic and political processes. More importantly, ICT can be used effectively to organize social mobilization to address a negative perception about women's role in society and create an awareness of women's rights.

Contents

		Page
I.	Introduction	3
II.	Review of the internationally agreed development goals and Millennium Development Goals on gender equality goals	4
III.	Challenges and opportunities for public administration in achieving gender equality and implementation of the Millennium Development Goals through ICT	6
IV.	Application of ICT in public administration and governance to help women gain access to government information, participate in decision-making and receive social services	10
V.	Policy recommendations	17

I. Introduction

1. Advancing gender equality and empowering women has cross-cutting impacts and hence contributes significantly to achieving the internationally agreed development goals, including the Millennium Development Goals. For example, enhancing women's educational attainment positively impacts on maternal and child health. Gainful employment of women contributes to family income and hence has a positive impact on poverty.

2. In recent years, various developing countries have made significant progress on the immense possibilities for using e-Governance as a platform for stronger democratic processes based on higher participation and accountability.[1] This requires moving beyond targeting efficiency "to embrace up-scaling, citizen-centred and broad-based use of information and communications technology (ICT)",[2] a movement that is particularly important to bring enormous gains towards gender equality and social justice owing to the potential of e-participation.

3. The challenge to public administration is not only the delivery of services but also addressing the full-fledged participation of all citizens, especially women. Addressing the gender dimensions of e-Governance poses an added set of challenges. Information and communications technology (ICT) is affected by and in turn affects the different opportunities that exist for men and women in relation to education, training and skills development, employment and working conditions, content development, and access to power structures and decision-making processes.[3] ICT can be an effective tool for enhancing the provision of public service to citizens as well as for economic development, while promoting increased education and knowledge. However, women are vastly underrepresented in government, in business, in political and social institutions; they continue to access and use ICT to a much lesser extent than men. Men still hold most managerial positions in telecommunications companies and regulatory or policymaking bodies; regulatory decisions are usually made without any gender-impact analysis; and service licences are handled by private companies without due attention to equal opportunity policies.[4]

4. Women tend to make up the majority of those who remain alienated from the outreach of governance structures for reasons that include mobility, level of education, and access to infrastructure and resources. The most important barrier is the discrimination and exclusions because of negative societal norms and attitudes regarding the role of women. The use of ICT in public administration and e-governance efforts can provide an opportunity to reach those who have been left out by transforming information and communications policies into opportunities to

[1] A. Gurumurthy, P. Singh, A. Mundkur and M. Swamy, eds., *Gender in the Information Society: Emerging Issues* (Bangkok, United Nations Development Programme Asia-Pacific Development Information Programme, Elsevier 2006). Available from http://www.apdip.net/publications/ict4d/GenderIS.pdf.

[2] Radhika Lal (2006), "WSIS: Some reflections on emerging discourses and frameworks", in Gurumurthy, op. cit., p. 31.

[3] Nancy Hafkin and Sophia Huyer, *Engendering the Knowledge Society: measuring women's participation* (Montreal, ORBICOM, 2007).

[4] United Nations, Department of Economic and Social Affairs, Division for the Advancement of Women, *Gender Equality and Empowerment of Women through ICT* (New York, 2005). Available from www.un.org/womenwatch/daw/public/w2000-09.05-ict-e.pdf.

increase national growth and development, by providing tools to overcome social and institutional barriers; and by strengthening participation in economic and political processes. More importantly, ICT can be used effectively to organize social mobilization to address a negative perception about women's role in society, and create an awareness of women's rights.

5. However, ICT-based public administration and e-governance strategies also run the risk of further marginalizing women in view of their generically low level of access to ICT. The present note will describe the measures governments can consider adopting to avoid this risk.

II. Review of the internationally agreed development goals and Millennium Development Goals on gender equality goals

6. Gender equality and ICT are relevant cross-cutting issues within the global development agenda. When appropriately interconnected, they can provide additional impact on achieving sector goals individually, as well as encouraging faster and more effective development. The theme of "gender equality in ICT" has been on the international agenda for at least 15 years. The Beijing Platform for Action (1995)[5] was the first international policy framework that recognized gender issues in relation to ICT, thus acknowledging the need for women's full participation at all levels in news media channels as well as promoting a balanced and non-stereotypical portrayal of women.

7. The Millennium Development Goals provide a useful framework for public administration to achieve major development gains, especially towards millennium development goal 3 — promoting gender equality and the empowerment of women, in particular the inclusion of women and girls in processes of economic, social and political development. ICT provides important tools to promote gender equality, enhance women's participation and empowerment and help women to achieve greater success in income-generating and domestic activities. ICT can also accelerate gender equality in the achievement of other Millennium Development Goals.

8. For instance, ICT can help to achieve gender equality under goal 1 — eradicating extreme poverty and hunger — by providing real-time information on agriculture, weather, pricing and marketing to support women's food production and income-earning enterprises, as well as helping women to care for their families and improve their living standard. With regard to goal 2 — achieving universal primary education, ICT can help to deliver literacy and education to girls and women wherever they live or work and thus open up new opportunities and provide flexible learning times. Concerning goals 4 and 5 on reducing child mortality and improving maternal health, ICT can provide improved information on nutrition and agriculture, facilitate the formation of health networks and information to health professionals and monitor health trends while assisting the provision of primary health care. With regard to goal 6 on combating HIV/AIDS, malaria and other diseases, ICT can supply information on prevention and treatment and, again, establish health networks and information for health professionals and interaction with patients in

[5] *Report of the Fourth World Conference on Women, Beijing, 4-15 September 1995* (United Nations publication, Sales No. E.96.IV.13), chap. I, resolution 1, annex II.

rural areas, including mobile HIV testing and counselling facilities assembled within minivans. For goal 7 on ensuring environmental sustainability, ICT can facilitate information on the environmental situation, weather forecasts and sustainable agricultural practices; it can also disseminate women's traditional knowledge and experience to promote sustainable development.

9. One of the most important international considerations on gender issues and ICT came from the outcome documents of the World Summit on the Information Society (held in Geneva in 2003[6] and in Tunis in 2005[7]). Despite insufficient attention to gender equality in the World Summit on the Information Society process and agenda, the Declaration of Principles that emerged from the first phase of the Summit encompassed a strong commitment to women's human rights and empowerment and underlined the importance of their participation in shaping the information society, as expressed below:[8]

> "We affirm that development of ICTs provides enormous opportunities for women, who should be an integral part of, and key actors, in the Information Society. We are committed to ensuring that the Information Society enables women's empowerment and their full participation on the basis of equality in all spheres of society and in all decision-making processes. To this end, we should mainstream a gender equality perspective and use ICTs as a tool to that end."[9]

10. The 2003 World Summit on the Information Society Plan of Action[10] called for a balanced and diverse portrayal of women and men in the media and referred to the need for gender-specific content, special measures for women and girls as well as gender perspectives in ICT education and education in general and training and jobs and career development for women with respect to ICT. Of particular importance in the Plan of Action was the recognition of the need to monitor developments and to devise gender-sensitive indicators.[11]

11. Subsequently, the Global Alliance for ICT and Development (GAID) has played an important role in the implementation of the gender equality provisions of the World Summit on the Information Society, especially through the work of its Community of Expertise on Gender, notably the International Task Force on Women and ICT.[12]

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[6] WSIS-03/GENEVA/DOC/0004.

[7] See A/60/687.

[8] H. Jensen, "Women, media and ICT in UN politics: progress or backlash?" In Gurumurthy, op. cit., 2006.

[9] Declaration of Principles, First Phase of the World Summit on the Information Society, Geneva, 10-12 December 2003 (WSIS-03/GENEVA/DOC/0004-E), para. 12.

[10] WSIS-03/GENEVA/DOC/0005.

[11] H. Jensen, op. cit., 2006 and N. Hafkin, "Gender Issues at the World Summit on the Information Society", *Information Technologies and International Development*, vol. 1, No. 3-4 (2004), pp. 55-59. Available from http://itidjournal.org/itid/article/viewArticle/158.

[12] See www.un-gaid.org/, http://www.un-gaid.org/Networks/CommunitiesofExpertise/Cross-cuttingthemes/WomenandICTTaskforce.tabid/936/language/en-US/Default.aspx, http://www.itfwomenict.org/.

12. According to the background note by the Secretary-General on achieving the Millennium Development Goals,[13] advancing gender equality and empowering women is one of the core challenges and critical policy areas for the achievement of development goals.

13. Within these goals, the Secretary-General defined main gender challenges to include access to education, employment, reproductive health, property rights, productive resources and capital, and participation in economic and public life. All these challenges are interconnected: gender trends in economic opportunity and livelihoods, and quality of health and life will affect the ability of women to access and benefit from e-Governance strategies and services. However, the following four key areas of e-Governance, when implemented with an understanding of gender barriers, risks and opportunities, are key pillars to improving women's access to services, their participation in local governance and their quality of life, and will facilitate the achievement of the Millennium Development Goals. The key areas are:

(a) Special attention to women's access to ICT;

(b) Design of ICT and e-Governance policies and strategies to integrate gender concerns;

(c) Providing equal opportunity to both men and women with information on and access to government services and programmes;

(d) Increasing the e-participation of women in political and democratic processes.

Public administrations can and should incorporate all of these pillars in their e-Government efforts and programmes.

III. Challenges and opportunities for public administration in achieving gender equality and implementation of the Millennium Development Goals through ICT

14. According to recent research,[14] governments in both developed and developing countries have lagged behind in mainstreaming gender perspectives into policies and opportunities for using ICT (in particular, the Internet and mobile technologies) towards implementing the internationally agreed development goals, including the Millennium Development Goals. Considerable lack of progress in this area arises from the adoption of a gender-blind approach (i.e., not taking into account different effects on women and men) concerning the introduction of new information technologies in e-Governance. Attention to gender issues by public administration at the planning stages and throughout policy implementation can

[13] United Nations (2008), *Committing to action, achieving the Millennium Development Goals*. Background note by the Secretary-General for the High-level event on the Millennium Development Goals, United Nations Headquarters, 25 September 2008. Available from www.un.org/millenniumgoals/2008highlevel.

[14] This includes numerous sources, for example: Ana Laura Rodríguez Gustá, *Interferencias en la conexión: las TIC y la desigualdad de género en los planes de igualdad de oportunidad y las agendas digitales de América Latina*. In G. Bondet, *Creadoras en la Sociedad del Conocimiento* (Buenos Aires, La Crujía) (forthcoming).

meet these challenges and reap rewards for citizens, including growth with equity in their respective countries.

15. There are myriad issues constraining women in developing countries from accessing and profiting from the benefits of information technology, ranging from sociocultural to technological aspects and the absence of relevant content in most ICT sources. If public administrations are aware of these issues and address them, they should be able to provide enhanced services and promote enhanced participation.

Sociocultural factors

16. In many developing countries, particularly in Africa where home access to ICT (whether computers, mobile phones, television or radios) is rare, many women must travel to public venues, such as telecentres or cybercafés. Several factors inhibit women's access to these facilities. These may be locations where women do not feel comfortable, or women may even fear harassment as a result of entering a "male space".[15] Women's multiple roles and heavy domestic responsibilities limit their leisure time, and centres may not be open when it is convenient for women to visit them. The mobility of women (both in the sense of access to transport and ability to leave the home) is usually more limited than that of men. At home women generally have less time to listen to the radio or lack access and privacy to use landline telephones.

Rural-urban divide/infrastructure

17. ICT infrastructure itself can become a gender-related issue as it tends to be conducive to well-developed urban areas, while it is poor or absent in rural areas. In virtually all developing countries, telecommunications infrastructure, as well as electricity, is weaker and less available in rural and poor urban areas. Because women represent a large percentage of rural population — particularly in Asia, sub-Saharan Africa, and parts of the Caribbean[16] — they have fewer opportunities than men to access new technologies.[16]

Income inequality

18. Access to information technology is costly — whether computers, mobile phones, television or even radio. As women tend to have less discretionary income, they are less likely than men to be able to pay for access. Not only do women in general have less disposable income than men, they tend to have more family-related responsibilities and are more likely than men to spend their earnings on education, food, clothes and other basic needs than on information communications tools.

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[15] Woldekidan Kifle Amde, "Exploring how gender mediates ICT access and use in Ethiopia", 2008. Unpublished paper for Research ICT Africa, p. 34.

[16] Nancy Hafkin and Helen Hambly Odame, "Gender, ICTs and Agriculture: a situation analysis for the fifth Consultative Expert Meeting of the Technical Centre for Agricultural and Rural Cooperation (CTA) ICT Observatory Meeting on Gender and Agriculture in the Information Society", 2002. Available from http://www.comminit.com/en/node/211936/348.

Language

19. While the overall preponderance of the English language on the Internet has been in decline since the year 2000, the Internet is still dominated by major world languages. Lack of education prevents women in developing countries from speaking or reading in non-local idioms. Therefore, language can pose a further barrier to women's access to the Internet and other social media tools.

Content and information needs

20. This is a topic which is often neglected, but of major importance in discussing constraints to women's use of ICT. Information becomes knowledge when the local context is added; thus linking information to the user's environment and particular situation is very important. Internet-based platforms, such as e-Government, e-commerce, websites and so forth, rarely provide the information that poor rural women in developing countries want and need — localized and contextual social, economic and political information relevant to their daily lives — in a language and format that they can easily access.[17]

Levels of education/computer/technical skills

21. The Millennium Development Goals related to gender equality are based on improving women and girls' education (41 million girls worldwide are excluded from primary and secondary education[18]). This underlines the important message that, overall, girls and women have lower rates of education than men.

22. The majority of the world's illiterate are women and far fewer women than men have computer literacy. The gender education gap is reflected in science and technology education, where there is a major concern about the number of girls in science and technology fields of study. Women in general have less access to technological skills training and development that would enable them to gain paid employment. All of these problems leave women and girls poorly placed to benefit from the potential advantages of the information society. Paradoxically, the new technologies could offer many opportunities for women and girls to gain the educational and technical skills required to participate equally in the knowledge economy.

Gender patterns of technology use

23. Many gender differences emerge in the use of ICT, with women's usage being generally lower than men's. There are, however, many nuances, such as the type of ICT and the kind of usage, as well as differences between developed and developing countries, regions, cultures and other factors.

24. While many e-Government efforts are directed at the Internet, overall Internet access and usage remains low in many developing countries. A major factor is the lack of easy availability of computers, Internet connectivity, and the relatively high

[17] Huyer, Hafkin et al., op. cit., 2005; Gurumurthy, op. cit., 2006; Huyer, "We are no longer ignorant: e-Governance strategies to overcome the gender divide", 2009. Unpublished document.

[18] Rashid Ahmed, Samer Al-Samarrai, Nadir Altinok, Massimo Amadio et al., *Overcoming Inequality: why governance matters. Education for All Global Monitoring Report* (Paris, UNESCO, 2009).

level of skill needed to operate them. When a country's overall Internet penetration remains low and is concentrated in major urban areas, women's overall access is very likely to be much lower than the national average. A large portion of the world's women does not use, or even know about the Internet, and women still compose the minority group of Internet users in almost all developing countries.[19]

Attitudes towards technology

25. Sociocultural norms may induce both technophobia and a disinterest in technology by women. Cultural attitudes often discriminate against women's access to technology and technology education. Girls are frequently discouraged from technical and scientific subjects and women themselves sometimes subscribe to the attitude that technology is something for men, with respect to both its use and its utility.

Relevance of gender-friendly public administration approaches

26. New information technologies such as the Internet and mobile phones have positive potential effects on the lives of women in developing countries, including perceived increased freedom and decreased tolerance for domestic abuse. However, there is equal or greater evidence, both in developed and developing countries, showing the persistence of pernicious attitudes, norms and standards that militate against gender equality.[20]

27. This raises an extremely difficult question, which is: To what extent can social and economic development as well as women's empowerment, including through the use of ICT for gender equality, really ensue when traditional gender attitudes and role stereotypes endure? Technology in and of itself cannot bring about gender equality. Technological change must be accompanied by changes in laws, attitudes, norms and culture, while supported by a public administration framework. The belief that empowering women through technology will benefit all needs to be shared by both men and women. This awareness must be included in e-Governance strategies and public administration policies.

28. E-Government can reach and help women by transforming communication avenues into opportunities to realize balanced national growth and development. It can also provide tools to overcome social and institutional barriers and strengthen women's participation in bureaucratic, economic and political processes.[21]

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[19] *Financing for Gender Equality: women in science, engineering and technology*, 2008. Available from http://www.un.org/womenwatch/daw/news/speech2008/2008%20Science%20and%20technology%20India.pdf.

[20] Dayoung Lee, "The impact of mobile phones on the status of women in India", 2009. Unpublished paper, Stanford University, Department of Economics. Available from http://mobileactive.org/research/impact-mobile-phones-status-women-india. On the negative effects of information technology on women's freedom, see, for example, Marie-Helene Mottin-Sylla, *The Gender Digital Divide in Francophone Africa: a harsh reality*, Dakar Etudes et recherches No. 244 (ENDA editions, 2005).

[21] Vikas Nath, "Empowerment of women through ICT-enabled networks: towards the optimum ICT-impact model". In N. Hafkin, *Cinderella or Cyberella? Empowering Women in the Knowledge Society* (Bloomfield, Connecticut, Kumarian Press, 2006).

Lack of gender analysis

29. Many telecommunication regulatory agencies both in the North and in the South have given insufficient attention to gender needs assessment/gender analysis, resulting in regulatory structures based on the assumption that men and women have equal access and similar needs. Many regulatory agencies have focused on universal access and rural communication services, but few have looked at the basic issues of availability, accessibility and affordability from a developing country gender perspective.[22]

IV. Application of ICT in public administration and governance to help women gain access to government information, participate in decision-making and receive social services

30. The quest for gender equality may define some of the choices and challenges that public administration frameworks need to make in determining e-Governance strategies. It is widely accepted that ICT can become an effective tool for Governments to provide services 24/7 to citizens, as well as to promote economic development and increase education and knowledge.

31. Public administration e-strategies that engage all members of society, especially women, need to be flexible, feasible and appropriate to local socio-economic and infrastructural contexts as well as tailored for specific groups — the underprivileged, women, youth, the elderly and those living in remote areas. These e-strategies need to be implemented on the basis of transparency, equality of treatment of all users and respect of privacy. They also need to conform to universal access strategies and be respectful of international conventions.[23]

32. Integrating gender awareness within all aspects of public administration will both improve the quality of life of all citizens and present an opportunity to promote the well-being and inclusion of all citizens in a meaningful and positive way. Effective ICT for all considers the needs of women and does not further entrench gender disparities. Engendering e-Governance includes awareness on the part of policymakers that men and women may have different needs and priorities. Therefore, different options need to be provided concerning access to the availability of ICT and to basic public services. In summary, engendering e-Government means recognizing women's rights to information and communication needs, interests and capacities, making all services accessible to them, using non-sexist language, and encouraging their full participation as well as monitoring gender impacts.

33. The use of gender analysis in policy design can contribute to the goal of gender equality. The experience of women's organizations and civil society groups

[22] C. Sanford and A. Bhattacherjee, "IT implementation in a developing country municipality: a socio-cognitive analysis", *Journal of Global Information Management*, 2007, vol. 15, No. 3, pp. 19-41.

[23] United Nations, Department of Economic and Social Affairs, *Compendium of Innovative E-government Practices*, vol. I (2005) and vol. II (2006); *E-Participation and E-Government: understanding the present and creating the future*. Report of the Ad Hoc Expert Group Meeting, Budapest, Hungary, 27 and 28 July 2006 (United Nations, New York, 2007); and Réseau genre et TIC (Regentic), "Citoyennes africaines de la société de l'information" (Dakar, 2004).

in many developing countries furnishes a number of useful approaches. These include building online communities and networks; expanding women's access to global and local markets; developing women's ICT capabilities to further empowerment goals; deploying ICT for human development in health, nutrition and education; and promoting advocacy, mobilization and solidarity-building. Public administrations can take advantage of these foundations and strategies to address gender equality and accelerate progress towards achieving the Millennium Development Goals.

34. Until recently, however, many national ICT development frameworks and strategies paid little or no attention to gender equality goals and women's advancement.[24] Conversely, national machineries on gender equality and policies often overlooked technology as well.[25]

35. The mobile phone has become increasingly important for women's access to ICT in developing countries. New developments in the convergence of technologies (such as mobile phones, cameras, radio and music and video players) can help to further expand mobile phone networks and increase the amount and kind of information they can provide for women as well as men. The remaining barrier for women — that of cost — is also falling, as ICT transactional costs are gradually lowering globally. Phone companies are working to make their low-end mobile phones data-capable, while many inexpensive phones are data-ready.[26] One of the most exciting developments where rapid progress is being made for increased access for poor women in developing countries is that of combining the mobile phone with voice access to the Internet.[27]

36. However, it should not be forgotten that successful access models can often include the use of "older" technologies, such as radio, television and print. Radio, in particular, has the potential to be a useful technology for women, as it can be used in areas where electricity is irregular or non-existent; radio is a medium that distributes content in local languages and is relatively inexpensive.

37. A number of strategies and practices have enabled women to gain access to government information, participate in decision-making and receive social services. They include the following.

Access to and information on governmental services and programmes

38. ICT can expand the outreach of governmental services and provide increased value, accountability and transparency as users can use e-Governance services to

[24] Chat Ramilo Garcia and Pi Villanueva, *Issues, Policies and Outcomes: are ICT policies addressing gender equality?* (Bangkok, United Nations Economic and Social Commission for Asia and the Pacific, 2001).

[25] Hafkin, "Gender and ICT policy in developing countries: an overview", *Asian Pacific Women's Information Network Centre (APWINC) Journal*, 2003, vol. 3, No. 4, pp. 32-64 and Huyer, "Handbook on Gender and E-Government in Africa", report prepared for the United Nations Economic Commission for Africa (Addis Ababa, 2007). Unpublished.

[26] A. Twinomugisha, "How information communication technology (ICT) is transforming Africa", 2009. Available from http://www.africabusinesssource.com/articles/innovation/how-information-communication-technology-ict-is-transforming-africa/.

[27] Amit A. Nanavati, Sheetal K. Agarwal, Arun Kumar, Nitendra Rajput et al., "Farmers' voices on the Spoken Web", *ICT Update* (October 2009). Available from http://ictupdate.cta.int/en/Feature-Articles/Farmers-voices-on-the-Spoken-Web.

find, among other things, the names and contact information of local officials and their roles and responsibilities, rules and regulations, and so forth. ICT can also enable citizens to interact with their government and local electoral bodies and representatives on issues such as grievances, new services, the status of existing services and the reporting of corruption and harassment. Women, in particular, benefit from lower transportation costs and faster responses. In societies where it is not acceptable for women to interact with men outside of their families, online access can allow them to act on their own behalf.[28]

39. In India, for instance, government service centres have been set up across the country to introduce C2C (citizen-to-citizen) and C2G (citizen-to-government) services in rural areas, particularly to women.[29] Service centres were put under the control of women's self-help groups. Over time, this has increased women's use of the services and technologies offered at the centres, while promoting communication and transactions between local administrations and the community.

40. Other approaches to access enhancement include the Nigerian mixed communication and technology services provided to poor communities, which include toll-free telephone communication with service providers, computers for recording and storing complaints, requests and suggestions and for the monitoring of the status of complaints already filed. This system improved the transparency of local government processes. The voice access and local meeting centre components made it especially accessible to local people, in particular women.[30]

41. While access to ICT is fundamental, it is not sufficient by itself. The percentage of women's Internet usage does not correlate directly with a country's rate of Internet penetration. Unless specific, targeted gender goals and strategies are implemented in ICT projects, women would not have equal access or benefit to the same extent as men.[31] If women are not directly targeted as beneficiaries of e-Governance, they will not be able to access information on government services, health and other issues which they need to support their livelihoods and well-being; nor will they be able to interact meaningfully with their Governments or participate in local governance forums and decision-making processes. Unless specific efforts are made to meet women's information needs, they will not find information that is relevant and useful. Encouraging and including the perspectives of women in policy design and implementation and ensuring that they receive the benefits of e-governance would enhance the prospects of addressing gender equality and the Millennium Development Goals. Conversely, these goals cannot be achieved without the inclusion of women.

42. India's award-winning "Bhoomi e-governance project" is an example of how a focus on administrative efficiency and information dissemination overlooked women's participation. Under the Bhoomi project, which involved the computerization of 20 million landowner records in the state of Karnataka, any farmer could obtain a copy of the land ownership document required to secure bank loans for a charge of Rs 15 (about US$ 0.32). However, analysis has shown that not only did the project have marginal relevance for women, but Bhoomi also actually

[28] Nath, op. cit., 2006.

[29] See http://www.westgodavari.org.

[30] G. Sharma, N. Raj and B. Shadrach, *Knowledge and Research Programme on Improving Efficiency of Pro-Poor Public Services* (New Delhi, One World South Asia, 2005).

[31] Huyer, Hafkin et al., op. cit., 2005; Hafkin and Odame, op. cit., 2002.

adversely affected poor women landowners by enabling loan sharks to identify and target them. Few women landowners knew of the system and those who did discovered that officials at the kiosk were unable to help them to obtain the certificates they needed.[32]

43. However, once all the elements are in place, e-government can bring enormous benefits in terms of gender equality, citizen-centred participation in governance and social justice. Evidence also comes from India, where women members of a right-to-information non-governmental organization created slogans that spread from Rajastan to across India that helped to first gain access to government records and subsequently monitor spending and then influence gender-based budgeting.[33]

Promotion of women's participation in political and democratic processes

44. A typical example of how ICT can promote the participation of women in political and democratic processes at all levels is through the provision of information about electoral processes. This is particularly important for women, who tend to have less access to public spaces, meetings and civic events, and as a result have less information on elections and candidate registration of poll locations. In the United Republic of Tanzania, as a positive reaction to the District Commission, use of radio to persuade women to run for office, women's networks are encouraging them to stand for election.

Support to women parliamentarians

45. In Macedonia, Short Message Service (SMS) messages encouraged votes for women in the 2006 national elections and were considered to have contributed to the increased representation of women in the Macedonian Parliament.[34] From 2001 to 2004, the United States Agency for International Development (USAID) Dot-Gov initiative trained women political candidates in Morocco on ICT, with the specific aim of enabling them to become better-informed advocates and to mount more effective political campaigns.[35]

46. The first global assessment of the use of ICT by parliaments mentioned gender as a component of the framework for the parliamentary contribution to democracy in two connections: the educational impact of websites and the cross-cutting issue of training programmes and advisory services.[36] One of the most interesting programmes designed for women politicians and legislators is the "International

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[32] K. Acharya, "Flaws in Bhoomi, India's model e-governance project" (Pune, India, 2003). Available from http://archive.apnic.net/mailing-lists/s-asia-it/archive/2003/08/msg00027.html; Rahul De', "The impact of Indian E-Government initiatives: issues of poverty and vulnerability reduction and conflict". In *Regional Development Dialogue*, vol. 27, No. 2, 2006, pp. 88-100. Available from http://www.uncrd.or.jp/pub/rdd/rdd27_2.pdf.

[33] Gurumurthy, op. cit., 2006, p. 123.

[34] E. Lallana, *mGovernment and eDemocracy* (Washington, D.C., World Bank, 2007); visit also http://www.mgovworld.org/resources/m-government-and-e-democracy.

[35] United States Agency for International Development, "Country snapshot: Morocco in democracy and governance", 2004. Available from http://www.usaid.gov/our_work/cross-cutting_programmes/wid/snapshot/me/morocco/morocco_dg.html.

[36] United Nations Department of Economic and Social Affairs, IPU and the Global Centre for ICT in Parliament, *World e-Parliament Report 2008*, New York, 2008 (ST/ESA/PAD/SER.E/124). Available from http://www.ictparliament.org/index.php?option=com_contact&task=view&contact_id=3&Itemid=1086.

Knowledge Network of Women in Politics (iKNOWpolitics)", an online workspace designed to serve the needs of elected officials, candidates, political party leaders and members, researchers, students and other practitioners interested in advancing women in politics.[37]

Support to national machineries on gender equality and ICT

47. National machineries on gender equality and women in government tend to be underrepresented in the development of e-government strategies, in both G2E (Government-to-Employee) and G2C (Government-to-Citizen). A comparative review of a few official websites of African Governments found that gender and social ministries do not develop an active and updated Internet presence to the same extent that information technology, communications and science and technology ministries do.[38] A range of successful ICT strategies for national machineries on gender equality could include combining new technologies, such as computers and mobile phones, with traditional communication means, such as radio and print media.

Delivery of social services

48. The Socially Inclusive Governance for the Information Society Framework[39] recognizes the need to focus on e-programmes and policies which suit a range of groups so that the poor, women and those living in rural areas are able to benefit from the use of ICT and e-government services to gain social and economic empowerment. The Framework emphasizes the building of capacities while reducing inequalities in life opportunities and deprivations of income, illiteracy, morbidity, persecution, security and lack of social choice. E-government can be an important tool for achieving national development, achieving the Millennium Development Goals and implementing the Beijing Platform for Action goals when e-government programmes are designed in ways that make them relevant to women. Effective strategies use a range of technologies which will fit local contexts, including appropriate infrastructure, cost, women's daily schedules and socially accepted interaction.

Increasing food security and agricultural information

49. Governments in many countries are setting up SMS and telephone answering services with agricultural information and marketing for farmers. In India, information kiosks collect, digitize and upload agricultural information on a local website.[40] The Crops Research Institute of Ghana, working with women farmer groups, found out that older ICT such as radio and audio cassette recordings, when combined with learning networks such as farmer radio forums and use of agricultural information centres, increased women farmers' access to agricultural information.[41]

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[37] See http://www.iknowpolitics.org/en.

[38] Huyer, op. cit., 2007.

[39] *Global E-Government Readiness Report 2005: from E-Government to E-inclusion* (United Nations publication, Sales No. 06.II.H.2).

[40] National Institute of Agricultural Extension Management, MANAGE. Available from www.manage.gov.in.

[41] Collins Nkrumah, "Promoting access to agricultural information by women farmers: using information and communication technology". Presented at the Fifth Pan Commonwealth Forum on Open Learning, 13-18 July 2008 (Commonwealth of Learning, London, 2008).

Providing health services and information

50. E-Health services can contribute in situations where there is a lack of specialized staff, shortage of medical expertise (particularly in rural areas), limited access to medical education and scarce data on health-related issues. They also have the potential of helping women and men to understand their own health, including prevention and dealing with health concerns, through the packaging and dissemination of easy-to-understand health information in a variety of media. A study of 70 countries in Asia and sub-Saharan Africa found a significant correlation between telephone and television density and reducing malaria deaths. Telephones can help by providing connections to larger social networks and facilitating rapid diagnosis and treatment, while television can provide disease prevention awareness among the population, encourage people to adopt healthy behaviour and communicate risk mitigation actions.[42] Many examples of the use of mobile phones to disseminate and collect health-related information do exist in various developing countries, as illustrated above.

E-Learning in and for improving e-Government

51. ICT-enabled education has great potential for increasing educational opportunities for women at all levels, in both formal and non-formal educational environments. It can provide flexible access arrangements and study times and encourage interaction and networking with peers and teachers. It can also improve the outreach towards women in rural areas and in the workplace while contributing to lifelong learning. ICT can also expand access to training programmes in gender, from basic online courses on leadership, health, and violence[43] to postgraduate programmes on gender and public policies, development, economy and gender studies.[44] The growing prevalence of computers in primary schools and use of Web 2.0 applications offer excellent opportunities for motivating girls and young women to participate in social networks, develop advanced ICT skills and produce and share content out of their own experience.

Promoting women's rights and fighting violence against women

52. Public administration frameworks can take advantage of ICT as a tool for promoting and monitoring the rights of women. Governments can use ICT to help

[42] P. Mozumde and A. Marathe, "Role of information and communication networks in malaria survival", in *Malaria Journal (2007)*, vol. 6, p. 136; see also http://www.malariajournal.com/content/6/1/136.

[43] In Latin America and the Caribbean, e-learning courses aim at empowering women for social and political participation and developing gender-sensitive science and technology education. They are given by the UNESCO Regional Chair on Women and Science and Technology in Latin America and the Caribbean in cooperation with the Organization of American States (www.catunescomujer.org). A virtual Master's Programme on Gender and Public Policies has been online since 2001 at the Facultad Latinoamericana de Ciencias Sociales (FLACSO) in Argentina (www.prigepp.org). The website of the Instituto Andaluz de la Mujer from Spain provides e-learning modules for self-training on gender topics such as gender indicators, equality laws, gender and health, assessment of gender impacts and non-sexist administrative language.

[44] Gloria Bonder, "La formacion en estudios de genero para la intervencion en politicas publicas: el valor de la experiencia para la innovacion". In Estefania Molina Busayon and Nava San Miguel (Coords.): *Universidad, Genero y Desarrollo. Estudios en Genero y Desarrollo. Balance y Propuestas* (Madrid, UAM Ediciones, 2009).

protect women and girls from trafficking and other abuses by verifying information, through the Internet or phone communication, about employment opportunities abroad and visa requirements, by providing access to legitimate job announcements, and by making direct contacts with potential employers. New information technologies can serve as tools to help find people who have disappeared, allowing the rapid exchange of information among concerned groups. Website and e-mail lists provide resources, information and support for the targets of security abuses, and also monitor and expose the activities of perpetrators and stalkers.[45]

53. Public administrations can also use ICT as an effective public consultation mechanism. In India, an e-discussion on the implementation of a new Domestic Violence Act helped the women's organizations to formulate a Memorandum for the Ministry of Women and Child Development.[46] In the North-West Frontier Province of Pakistan, the Public Health Engineering Department of Pakistan introduced a community-based water and sanitation project that used video technology to effectively address gender issues and include women in the design and planning processes.[47]

Supporting women's livelihoods and employment opportunities

54. The use of ICT to support women's livelihoods is an area where e-governance can make a noticeable difference in improving the profits, quality and efficiency of women's small, micro and medium enterprises. Mobile commerce (m-Commerce) via cell phones is becoming a major business driver in Africa, as well as in other regions, and poses particular opportunities for women who can access mobiles more readily than other forms of ICT. E- and m-commerce can improve communication with customers and suppliers and save time and travel costs as well as increase profits, while acting as conduits for training and information on markets, products and pricing in different areas. Mobile phone and small-scale ICT support can increase the productivity and efficiency of small, micro and medium enterprises through the support of trade and business operations; access to clients and suppliers; access to auction sites to buy and sell products, and even access to financial resources and credit through m-banking. Other potential business support services via mobile devices include access to toll-free directories for online databases with information on suppliers and distribution channels, competition, potential partners and export possibilities.[48]

55. When targeted at women, computer-based training activities can support women both by providing training on business management as well as by teaching them how to use the Internet and ICT to improve production and marketing and to increase cross-border trade opportunities. ICT-based small, micro and medium enterprise training programmes targeted at women and women's groups are

[45] Huyer et al., op. cit., 2005.

[46] Heather Creech et al., "Evaluation of UNESCO's community multimedia centres" (Final report, 2006). Available from http://portal.unesco.org/ci/en/ev.php-URL_ID=22129&URL_DO=DO_TOPIC&URL_SECTION=201.html; and http://www.solutionexchange-un.net.in/en/Impact-Stories/Curbing-Domestic-Violence.html.

[47] Elizabeth Wickett cited in Angela Thas, Chat Ramilo Garcia and Cheekay Cinco, *Gender and ICT e-Primers for the Information Economy, Society and Polity* (Asia-Pacific Development Information Programme, Bangkok, 2007).

[48] See "We've Gone Mobile!", Government of Canada. Available from http://www.canada.gc.ca/mobile/tut_c-eng.html.

important for encouraging women to find information on ICT productivity tools and technologies and to promote the use of new technologies for new enterprises.

56. Mobile-to-mobile information and trade services provide accessible market information to cut out the middleman. A rural women's producer group in the United Republic of Tanzania receives regular information on markets through their mobile phones. This information is posted daily on a village bulletin board. The producers are now able to work directly with processors and traders to investigate markets far beyond their traditional immediate trading partners. As a result, price transparency and profits have increased all along the market chain.

57. The Government of the Republic of Korea encourages the use of ICT by women farmers through on-site and mobile computer education and technical support services. Real-time information on market prices is posted on the website, which also operates a shopping mall for agricultural products.[49] The Kyonggi Province Programme for Women Information Technology Professionals provides training and lifelong education for women tailored to the different stages of women's lives.[50] Unemployed women, women heads of households and women living with disabilities who want to enter the workforce are trained in business incubation and capacity-building.[51]

58. The relatively new feature of using mobile phones for cash transfers provides a great spur to women's micro and small-scale enterprise development, particularly in Africa. Users do not need bank accounts; they buy digital funds at an agent and send that cash to any other mobile phone users in Kenya through a SMS. The phone becomes an electronic wallet, holding up to 500 euros. For women, the advantages of m-payments are having safer and less expensive ways to receive and send remittances.

59. Other economic impacts include additional savings for women who are mobile phone users and more money for their own use in the bank.[52] Mobile phones also have the additional advantage for women of circumventing cultural norms that restrict their movements, as well as the people and places they can visit, not only in the social but also in their economic spheres. In highly segregated communities, where women may be forbidden to speak directly with men, mobile phones can enable female business owners restricted by religious norms to expand their businesses without male assistance.[53]

V. Policy recommendations

60. Women and men need to have equal opportunities to participate in the construction of e-government architecture, and in monitoring and assessing its

[49] Thas et al., op. cit., 2007.

[50] Economic and Social Commission for Asia and the Pacific, *Moving Beijing Forward: gaps and challenges*. High-level Intergovernmental Meeting to Review Regional Implementation of the Beijing Platform for Action and Its Regional and Global Outcomes (Bangkok, 2004).

[51] Thas et al., op. cit., 2007.

[52] Lee, op. cit., 2009.

[53] Kazanka Comfort and John Dada, "Women's use of cell phones to meet their communication needs: a study of rural women from northern Nigeria". In Ineke Buskens and Anne Webb, *African Women & ICTs: Investigating Technology, Gender and Empowerment* (Pretoria, Zed Books/International Development Research Centre (IDRC), London, 2009).

development. Two statements help to illustrate the contextual meaning of the recommendations that follow:

> "The design of public policies should take into account that access to ICT is a moving target, given that the cycle of innovation ... is short and the diffusion curves of technological solutions follow quickly one after another. ... Public intervention is necessary but difficult and complex, given the characteristics of the technology and the shortcomings of government itself."[54]

> "... e-government services [do] not necessarily equate with the civic empowerment of women. For real empowerment through e-democracy, local people must have the opportunity for input and feedback on government policies."[55]

61. Gender mainstreaming is not a new strategy for achieving gender equality. Since the inclusion of this measure in the Beijing Platform for Action in 1995, all entities of the United Nations system and multilateral organizations, as well as many national States and institutions, adopted it and made advances towards its implementation. In its report for 1997, the Economic and Social Council noted that "mainstreaming the gender perspective into all policies and programmes in the United Nations system" is "the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels."[56] Moreover,

> "It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality."[56]

62. That agreed conclusion stressed that the United Nations system should take responsibility for institutionalizing gender mainstreaming in cooperation with Member States through concrete steps, mechanisms and processes in all parts of the United Nations system and locate it at the highest levels. It also affirmed that the successful translation of this strategy into practice requires a clear political will and the allocation of adequate and, if need be, additional human and financial resources from all available funding sources. Since then guidelines, manuals, tools and studies have been produced with the aim of helping to bring about its full comprehension and implementation.[57]

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[54] Economic Commission for Latin America and the Caribbean, Division of Production, Productivity and Management, *Public Policies for the Development of Information Societies in Latin America and the Caribbean* (Santiago, 2005).

[55] E. Rathgeber, *Engendering E-Government in Developing Countries* (Ottawa, eGov Monitor, 2006). Available from http://www.egovmonitor.com/node/5866.

[56] *Official Records of the General Assembly, Fifty-second Session, Supplement No. 3* (A/52/3/Rev.1), chap. IV, sect. A, agreed conclusions 1997/2.

[57] Among them UNDP, *Gender Mainstreaming Learning and Information Packs*. Available from http://www.undp.org/women/docs/GM_INFOPACK/GenderAnalysis1.doc; and World Bank, "Resources on Gender". Available from http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTGENDER/0,,contentMDK:21358556~menuPK:3851633~pagePK:210058~piPK:210062~theSitePK:336868,00.html.

63. Although some work has been done on gender issues in good governance,[58] **gender mainstreaming in e-government is still a fairly new area that needs to be more consistently addressed through research, creation of methodologies and tools, training and monitoring in order to understand its particularities and so as to effectively intervene.**

64. **Recommendations concerning the mainstreaming of gender perspectives into e-government include:**

- **A strong commitment by national and local governments to design, through participatory approaches, e-government programmes, websites and services that are available and responsive to the needs and opinions of both women and men from all social and economic sectors, in addition to consultative and monitoring mechanisms.**
- **Awareness at all levels of e-government planning and policymaking about the social benefits of gender mainstreaming through ICT policies and programmes.**
- **Development of national ICT policies that ensure the participation of women, gender experts and women's organizations at all stages of the planning and implementation process, as well as awareness and consultation.**
- **Widespread use of needs assessments, sex-disaggregated data and gender indicators.**
- **Enactment of sector policies and use of action plans to track and monitor their implementation, ensuring adequacy of resources allocated to them.**
- **Design, implementation and maintenance by Governments of an enabling environment for the formulation and systematic assessment of gender-sensitive e-government policies, including the appropriate legal, regulatory and institutional arrangements.**[59]
- **Implementation of cross-jurisdictional coordination to improve gender mainstreaming across the actions of public administration institutions.**
- **Involvement of national machineries on gender equality to incorporate ICT more effectively into administrative procedures as well as in the interaction with stakeholders, and to enlarge their understanding of ICT added-value for the development of agendas and policies.**
- **Linking public administration reform strategies and programmes to e-government strategies and ensuring that they engage both women and men stakeholders and civil servants in their design and implementation.**
- **Increasing regional and international interactions and collaborative work between governments, networks, non-governmental organizations and universities involved in gender and ICT-related issues.**

[58] For example, by the World Bank, http://siteresources.worldbank.org/INTGENDER/Resources/BriefingNoteGenderGovernance.pdf.

[59] The generic parameters for the creation of such enabling environments were already defined, among others, in the intergovernmental processes resulting from the Fourth World Conference on Women, held in Beijing in 1995.

- Encouraging governmental bodies, particularly those responsible for education, to promote the access of women to careers in science and technology and to implement gender-sensitive e-learning programmes and courses within a framework of lifelong and participatory education.

65. The design of e-government policies could include:

- Utilization of a "human-centred systems design" of e-government sites based on the inputs of women and men from different social circumstances.
- Dissemination of information on national and local e-government services among women of rural and poor areas and support for access to ICT and their proper use.
- Creation of and support for convenient, affordable and safe telecentres where women can obtain gender-sensitive digital literacy training (from basic to more advanced uses), build networks at local and national levels and gain skills for expanding employment prospects and developing competitive entrepreneurships in the knowledge economy.

66. E-government sites should:

- Include gender appropriate and attractive contents, use non-sexist language and promote user awareness of gender stereotypes and violent and discriminatory messages on the Internet.
- Present a realistic image of women's potential in the use and creation of technology.
- Create opportunities for women to acquire skills for the advanced uses of ICT.
- Provide e-learning activities or modules for improving citizens' knowledge of human rights, gender equity and to promote the strategic use of ICT for community development, women's small, micro and medium enterprises and other development needs.
- Apply not only high-end technologies but also a variety of technology options to meet the needs of all users.

67. Monitoring gender mainstreaming approaches in e-governance:

- E-governance policies should be monitored to assess their impact on women and men and to determine whether they promote equal access to opportunities and resources. Possible indicators include: sex-disaggregated data of online voters' registration and sex-disaggregated data of e-users of e-government sites and mobile services.
- Measures should be taken to monitor the representation of women and men in government institutions at national and local levels and across a range of programme areas (including both their relative numbers and the positions they hold).

68. Funding gender mainstreaming approaches in e-governance:

- Mobilization of funding from governments, international agencies and donors to transform isolated ICT-based gender equality initiatives into national and regional mainstreamed policies.

69. Research into gender mainstreaming approaches in e-governance:

- The United Nations is encouraged to carry out research on case studies, gather lessons learned towards gender impact analysis and map the existing institutional and human resources working in gender and ICT in all regions.

70. The gender divide needs to be addressed through integrated approaches that take into account economic, social and cultural factors, including the cultural and social biases with reference to the application of ICT.

71. Recognition by Governments, as part of their wider policies of inclusion, of the importance of incorporating gender equality in ICT as a key factor to promoting women's equal access to ICT tools. This will help to reduce overlapping gendered social relationships, gender discrimination and gender-blind ICT policy processes, which undermine women's access to opportunities in the emerging information society. It will also increase the potential of ICT to become an effective tool for the promotion of gender equality.